

# Notice of Allowability

Application No.

10/800,422

Applicant(s)

TSATSANIS ET AL.

Examiner

Aristocratis Fotakis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/09/2007.
2. ☒ The allowed claim(s) is/are 1 - 26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 04/30/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 9-24-07
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Examiner's Amendment*

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr Chad W. Miller on September 24, 2007.

The application has been amended as followed:

Claim 6, Lines 17 - 18, "*the cancellation signal with the at least one signal received*", will become "*the cancellation signal with **the differential mode component of the at least one signal received***".

Claim 17, Line 9, the phrase "*at least one received signal or*" is removed

Claim 24, Line 9, the phrase "*at least one received signal or*" is removed

Claim 24, Line 7, in the phrase "*means for jointly filtering **the** at least two isolated*" the word "**the**" is removed.

***Allowable Subject Matter***

Claims 1 - 26 are allowed.

The following is an examiner's statement of reasons for allowance:

Re independent claim 1, the prior art of record does not disclose a method for canceling noise on a signal, receiving two or more signals over two or more conductor pairs where for each of the two or more signals, processing each signal to isolate the common mode component to thereby create two or more common mode components; for each conductor pair, filtering the two or more common mode components to create two or more cancellation signals associated with each conductor pair; combining each of the two or more cancellation signals with the signal associated with the conductor pair to cancel the differential mode noise component from the signal associated with that conductor pair to thereby isolate the differential mode signal component; outputting the isolated differential mode signal component.

Re independent claim 6, the prior art of record does not disclose of a method for processing a received signal in a multi-channel communication system to reduce

unwanted noise, the method comprising: receiving two or more signals over two or more channels, wherein each of the two or more channels comprise one or more conductive paths and processing the common mode component and the at least one common mode component from another channel with the filter to generate a cancellation signal.

Re independent claim 11, the prior art of record does not disclose of a communication system for processing a received signal to isolate and cancel noise from two or more incoming signals comprising: two or more inputs configured to receive two or more incoming signals; at least two common mode isolation units configured to isolate the common mode component of the two or more incoming signals, to thereby generate two or more common mode components; at least one digital filter, wherein each filter is configured to receive the two or more common mode components and process the two or more common mode components to generate a cancellation signal;

Re independent claim 17, the prior art of record does not disclose of a method for canceling unwanted noise from a signal received over a multi-channel communication system comprising: receiving two or more signals over two or more channels; processing at least two one of the two or more signals to isolate a common mode component associated with each at least one of the two or more signals; filtering the two or more isolated common mode components to create a cancellation signal for each channel; and combining the cancellation signal for each channel with at least one differential mode component to reduce noise in the differential mode component.

Re independent claim 24, the prior art of record does not disclose of a system for canceling unwanted noise from a signal received over a multi-channel communication system comprising: means for receiving two or more signals over two or more channels; means for processing at least two of the two or more signals to isolate a common mode component associated with the two or more signals; means for jointly filtering two or more isolated common mode components to create a cancellation signal; and combining the cancellation signal for each channel with at least one differential mode component to cancel or reduce noise in the differential mode component.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristocratis Fotakis whose telephone number is (571) 270-1206. The examiner can normally be reached on Monday - Thursday 7 - 5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF

A handwritten signature in black ink, appearing to be "AF" followed by a stylized flourish.A handwritten signature in black ink, appearing to be "Chieh M. Fan" followed by a stylized flourish.

CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER